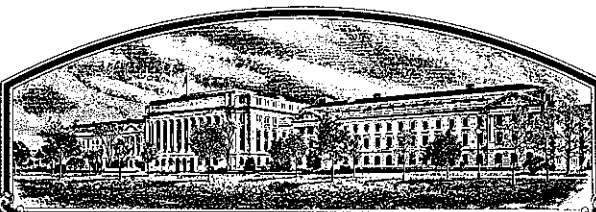


No.

8200190



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Musser Seed Co., Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT OF 1930, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WATERMELON

'Bush Charleston Gray'

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 21st day of July in
the year of our Lord one thousand nine
hundred and eighty-three.

Attest:

Kenneth B. Evans
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) MUSSEY SEED CO., INC.		2. TEMPORARY DESIGNATION 82-4041		3. VARIETY NAME BUSH CHARLESTON GRAY	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. BOX 1406 351 SO. PARK AVE. W. TWIN FALLS, ID 83301 USA		5. PHONE (Include area code) 208-734-2377		FOR OFFICIAL USE ONLY PVPO NUMBER 8200190	
6. GENUS AND SPECIES NAME CITRULLUS LANATUS		7. FAMILY NAME (Botanical) CUCURBITACEAE		FILING DATE 9/28/82 TIME 2:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME WATERMELON		9. DATE OF DETERMINATION 09/01/81		FEES RECEIVED AMOUNT FOR FILING \$ 500.00 DATE 9/28/82 AMOUNT FOR CERTIFICATE \$ 250.00 DATE 5/24/83	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) CORPORATION				12. DATE OF INCORPORATION	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION IDAHO					
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS PAUL H. YORTY BOX 1406 TWIN FALLS, ID 83301 USA TEL. 208-733-0077					

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. ☒ Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
b. ☒ Exhibit B, Novelty Statement
c. ☒ Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
d. ☐ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.)
☐ Yes (If "Yes," answer items 16 and 17 below) ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
☐ Yes (If "Yes," give names of countries and dates)
☒ No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes (If "Yes," give names of countries and dates)
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT PAUL H. YORTY		DATE 09/22/82
SIGNATURE OF APPLICANT <i>X Paul H. Yorty</i>		DATE 1

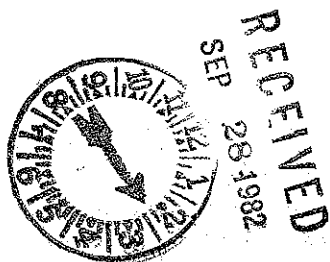
INSTRUCTIONS

General: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Department of Agriculture, Agricultural Marketing Service, Livestock, Meat, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

Item

- 9 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 14a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 14b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 14c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 14d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 15 If "Yes" is specified (*seed of this variety be sold by variety name only as a class of certified seed*) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "No," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 16 See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

GPO 890-698





Musser Seed Co., Inc.

TWIN FALLS, IDAHO P. O. BOX 1406
351 SOUTH PARK AVENUE WEST 83301

(208) 734-2377

SANTA MARIA, CALIF. P. O. BOX 527
706 SOUTH OAKLEY AVENUE 93456

(805) 928-2518

CALDWELL, IDAHO P. O. BOX 787
1403 CHICAGO STREET 83605

(208) 459-8243

8200190

BUSH CHARLESTON GRAY
JSH 1/13/83

EXHIBIT A

The breeding work to develop this variety was begun May 3, 1977. Charleston Gray 133 was crossed with Sugar Bush and then backcrossed 6 times to Charleston Gray 133. Selection was made in each backcross F_2 generation for the dwarf plant character. Three generations were grown per year in most years. From the BC_6F_2 generation, 183 dwarf segregants were selected for the initial seed increase (the dwarf gene is homozygous recessive). All fruits were typical of Charleston Gray 133 for shape and color as expected. The only variants were those typical for Charleston Gray 133 such as somewhat pointed blossom ends on perhaps 10 percent of the fruits due to crowded plant conditions. All fruits were definitely cylindrical like the recurrent parent. None were round like the Sugar Bush parent.

EXHIBIT B

This variety is distinctly different from Charleston Gray 133 because the plants are dwarf with dense foliage, leaves are deeper green, seeds are much smaller and flesh is finer. Plant size is 3 to 4 feet in diameter compared to 12 to 15 feet for Charleston Gray 133. Foliage is dense and internodes are very short. Leaves are deeper green and have more indentations in the major leaf lobes than Charleston Gray 133, which gives them a more wavy or frilled appearance. Plants are quite similar to Sugar Bush but somewhat larger. Seeds are only about half as large as Charleston Gray 133. Flesh is finer grained and appears deeper red than Charleston Gray 133.

September 22, 1982

PAUL YORTY

Paul Yorty

NOTICE — LIMITATION OF WARRANTY AND OF LIABILITY: SELLER WARRANTS THAT THE SEED IT SELLS WILL BE, AT THE TIME OF DELIVERY, AS DESCRIBED ON THE CONTAINER WITHIN RECOGNIZED TOLERANCES. SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, AND IN ANY EVENT LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO SUCH SEEDS IS LIMITED TO THE PURCHASE PRICE OF SUCH SEED. "SELLERS LIABILITY, WHETHER CONTRACTUAL, FOR NEGLIGENCE OR OTHERWISE, IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS UNDER ALL CIRCUMSTANCES AND REGARDLESS OF THE NATURE, CAUSE OR EXTENT OF THE LOSS, AND AS A CONDITION TO ANY LIABILITY ON THE SELLERS PART THE SELLER MUST RECEIVE NOTICE BY REGISTERED MAIL OF ANY CLAIM THAT THE SEED IS DEFECTIVE THIRTY (30) DAYS AFTER THE DEFECT IN THE SEED BECOMES APPARENT. SEED NOT ACCEPTED UNDER THESE TERMS AND CONDITIONS MUST BE RETURNED AT ONCE IN ORIGINAL UNOPENED CONTAINERS AND THE PURCHASE PRICE WILL BE REFUNDED.

"WE FURTHER LIMIT TO SUCH PURCHASE PRICE OUR LIABILITY OF ANY KIND ON ACCOUNT OF ANY NEGLIGENCE WHATSOEVER ON OUR PART WITH RESPECT TO SUCH SEED."



Musser Seed Co., Inc.

TWIN FALLS, IDAHO P. O. BOX 1406 (208) 734-2377
351 SOUTH PARK AVENUE WEST 83301
SANTA MARIA, CALIF. P. O. BOX 527 (805) 928-2518
706 SOUTH OAKLEY AVENUE 93456
Caldwell, IDAHO P. O. BOX 787 (208) 459-8243
1403 CHICAGO STREET 83605

December 7, 1982

Mr. Joseph J. Higgins
Examiner, Plant Variety Protection Office
U.S.D.A. Agricultural Marketing Service
National Agricultural Library Building
Beltsville, Maryland 20705

Dear Mr. Higgins:

Subject: Additional information on watermelon application 8200190
('82-4041') requested in October 25, 1982 letter.

BUSH CHARLESTON GRAY
SH
1/13/83

EXHIBIT A - Additional Information

As previously stated, 183 plants were grown for the initial seed increase of 82-4041. The "variants" mentioned (somewhat pointed blossom ends) were the result of an excessive plant population. Other plantings for yield comparisons had normal fruit shape. Therefore, the variation was environmental and entirely normal under the circumstances. I apologize for confusing this variation with genetic variation which was requested under section 14a(3) on the application form. Genetic variants were not observed, either in the plants, fruits or seeds.

Evidence for uniformity and stability of 82-4041 is based on genetic information, which was confirmed by growing plants from a dwarf segregant that was self-pollinated 2 times. The dwarf plant type of Sugar Bush, which was used to incorporate the dwarf plant type into Charleston Gray 133, results from the stable homozygous recessive genetic condition. The heterozygous genetic condition results from the cross of the vining Charleston Gray 133 x a dwarf plant, and always produces tall plants as expected. As confirmation of stability, a dwarf segregant was self-pollinated 2 consecutive times. The 10 plants grown from the resulting seed were all dwarf and had the expected fruit and seed characteristics.

EXHIBIT B - Additional Information

Variety 82-4041 resembles Charleston Gray 133 more closely than any other variety. From a genetic viewpoint, this variety is virtually identical to Charleston Gray 133 except for the dwarf gene which is also responsible for more dense, deeper green foliage; finer flesh and smaller seeds. However, I also compared 82-4041 to Sugar Bush since its' plant size and form more closely resembles Sugar Bush than Charleston Gray 133.

NOTICE — LIMITATION OF WARRANTY AND OF LIABILITY: SELLER WARRANTS THAT THE SEED IT SELLS WILL BE, AT THE TIME OF DELIVERY, AS DESCRIBED ON THE CONTAINER WITHIN RECOGNIZED TOLERANCES. SELLER MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE, AND IN ANY EVENT LIABILITY FOR BREACH OF ANY WARRANTY OR CONTRACT WITH RESPECT TO SUCH SEEDS IS LIMITED TO THE PURCHASE PRICE OF SUCH SEED. SELLERS LIABILITY, WHETHER CONTRACTUAL, FOR NEGLIGENCE OR OTHERWISE, IS LIMITED IN AMOUNT TO THE PURCHASE PRICE OF THE SEEDS UNDER ALL CIRCUMSTANCES AND REGARDLESS OF THE NATURE, CAUSE OR EXTENT OF THE LOSS, AND AS A CONDITION TO ANY LIABILITY ON THE SELLERS PART THE SELLER MUST RECEIVE NOTICE BY REGISTERED MAIL OF ANY CLAIM THAT THE SEED IS DEFECTIVE THIRTY (30) DAYS AFTER THE DEFECT IN THE SEED BECOMES APPARENT. SEED NOT ACCEPTED UNDER THESE TERMS AND CONDITIONS MUST BE RETURNED AT ONCE IN ORIGINAL UNOPENED CONTAINERS AND THE PURCHASE PRICE WILL BE REFUNDED.

WE FURTHER LIMIT TO SUCH PURCHASE PRICE OUR LIABILITY OF ANY KIND ON ACCOUNT OF ANY NEGLIGENCE WHATSOEVER ON OUR PART WITH RESPECT TO SUCH SEED.



Musser Seed Co., Inc.

TWIN FALLS, IDAHO P. O. BOX 1406 (208) 734-2377
351 SOUTH PARK AVENUE WEST 83301
SANTA MARIA, CALIF. P. O. BOX 527 (805) 928-2518
706 SOUTH OAKLEY AVENUE 93456
CALDWELL, IDAHO P. O. BOX 787 (208) 459-8243
1403 CHICAGO STREET 83605

The plant size of 3 to 4 feet in diameter for 82-4041, compared to 12 to 15 feet for Charleston Gray 133 was based on the measurement of maximum plant spread of a 10-plant average. In 1982, this averaged 102 cm for 82-4041 compared to 390 cm for Charleston Gray 133 and 96 cm for Sugar Bush.

Seed size measurements have been made so that differences can be expressed numerically. The average seed size is based on 20 seeds and the results are as follows:

	Bush Charleston Gray <82-4041>	Charleston Gray 133
Seed length (mm)	10.3	12.0
Seed width (mm)	6.1	7.7
wt. of 1000 seeds (g)	65	94

The name of this variety should be determined sometime in January 1983 and it will be provided as soon as possible.

Sincerely,

Paul Yorty
Research Geneticist

PY:mes

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Watermelon)

OBJECTIVE DESCRIPTION OF VARIETY
WATERMELON (*CITRULLUS LANATUS*)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

MUSSEY SEED CO., INC.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P.O. BOX 1406
351 SO. PARK AVE. W.
TWIN FALLS, ID 83301 USA

FOR OFFICIAL USE ONLY

PVPO NUMBER 8200190

VARIETY NAME OR TEMPORARY
DESIGNATION

82-4041

GRAY

BUSH CHARLESTON

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., 0 8 9 or 0 9) when number is either 99 or less or 9 or less.

1. TYPE:

1 = OBLONG 2 = ROUND LARGE 3 = ROUND SMALL (icebox)

2. AREA OF BEST ADAPTATION:

4 = SOUTH 1 = SOUTH 2 = NORTHEAST/NORTHCENTRAL 3 = SOUTHWEST 4 = MOST AREAS

3. EMERGENCE TO ANTHESIS:

0 0 NO. OF DAYS EARLIER THAN 1 } 1 = CHARLESTON GREY
0 0 NO. OF DAYS LATER THAN 1 } 2 = OTHER (Specify) _____

4. POLLINATION TO MATURITY:

0 0 NO. OF DAYS EARLIER THAN 1 } 1 = CHARLESTON GREY
0 0 NO. OF DAYS LATER THAN 1 } 2 = OTHER (Specify) _____

5. PLOIDY:

1 = DIPLOID 2 = TETRAPLOID 3 = TRIPLOID

6. PLANT

1 Cotyledon: 1 = FLAT 2 = FOLDED 1 = MONOECIOUS 2 = ANDROMONOECIOUS

Number of flowers per plant at first fruit set:

0 8 STAMINATE 0 1 PISTILLATE 0 0 PERFECT 3 NO. OF MAIN STEMS AT CROWN

7. STEM:

2 = 1 = ROUND 2 = ANGULAR 0 9 MM. DIAMETER AT SECOND NODE

3 = 1 = GLABROUS 2 = SCABROUS 3 = PUBESCENT 4 = BRISTLED

3 .1 CM. VINE LENGTH ÷ NO. OF INTERNODES (At last harvest)

8. LEAF:

1 = 1 = OVATE 2 = OBOVATE 3 = ROUND 1 = 1 = LONGER THAN WIDE 2 = LENGTH-WIDTH EQUAL
3 = WIDER THAN LONG

1 Dorsal Surface: } 1 = SMOOTH 2 = PUBESCENT

2 Ventral Surface: } 4 Color: 1 = LIGHT GREEN 2 = GRAY GREEN
3 = MEDIUM GREEN 4 = DARK GREEN

9. FLOWER (At first fruit set):

0 3 Staminate: CM. ACROSS 0 2 Perfect: CM. ACROSS 1 Color: 1 = LEMON YELLOW
2 = YELLOW 3 = ORANGE

10. MATURE FRUIT:

<input type="text" value="3"/> 1 = ROUND	2 = OVAL	3 = CYLINDRICAL	<input type="text" value="3"/> <input type="text" value="8"/> CM. LONG	<input type="text" value="2"/> <input type="text" value="0"/> CM. DIAMETER AT MIDSECTION
<input type="text" value="0"/> <input type="text" value="6"/> KG. AVERAGE WEIGHT	<input type="text" value="1"/> <input type="text" value="9"/> INDEX = LENGTH \div DIAMETER X 10			
<input type="text" value="1"/> 1 = SMOOTH	2 = SLIGHTLY GROOVED	3 = DEEPLY GROOVED		
<input type="text" value="3"/> Color: 1 = SOLID (One color)	2 = STRIPE	3 = MOTTLE/NET		
<input type="text" value="2"/> Primary Color: 1 = YELLOW GREEN (Desert King)	2 = LIGHT GREEN (Charleston Gray)	3 = MEDIUM GREEN (Sugar Baby)		
<input type="text" value="2"/> Secondary Color: 4 = DARK GREEN (Florida Giant)	5 = OTHER (Specify) _____			

11. RIND:

<input type="text" value="3"/> 1 = TENDER	2 = BRITTLE	3 = TOUGH	<input type="text" value="1"/> <input type="text" value="5"/> THICKNESS MM. BLOSSOM END
			<input type="text" value="2"/> <input type="text" value="0"/> THICKNESS MM. SIDES

12. FLESH:

<input type="text" value="1"/> 1 = CRISP	2 = SOFT	<input type="text" value="2"/> 1 = COARSE-FIBROUS	2 = FINE-LITTLE FIBER
<input type="text" value="5"/> Color: 1 = YELLOW	2 = ORANGE	3 = PINK	4 = RED 5 = DARK RED
<input type="text" value="11"/> REFRACTOMETER % SOLUBLE SOLIDS OF JUICE (Center of fruit)	<input type="text" value="1"/> <input type="text" value="1"/> % CHECK VARIETY (Specify) _____		
<input type="text" value=""/> % HOLLOW HEART	<input type="text" value=""/> % PLACENTAL SEPARATION	<input type="text" value=""/> % TRANSVERSE CRACK	

13. SEED:

<input type="text" value="1"/> <input type="text" value="0"/> MM. LONG	<input type="text" value="0"/> <input type="text" value="5"/> MM. WIDE	<input type="text" value="0"/> <input type="text" value="2"/> MM. THICK
<input type="text" value="2"/> <input type="text" value="0"/> INDEX \div LENGTH \div WIDTH X 10	<input type="text" value="6"/> <input type="text" value="5"/> GM. PER 1000 SEED	<input type="text" value="2"/> <input type="text" value="9"/> <input type="text" value="0"/> NO. SEED PER FRUIT
<input type="text" value="1"/> <input type="text" value="0"/> Color: 1 = WHITE 2 = WHITE-TAN TIPPED 3 = WHITE-PINK TIPPED 4 = TAN 5 = GREEN 6 = RED 7 = DARK BROWN 8 = DARK BROWN MOTTLED 9 = BLACK 10 = MOTTLED BLACK		

14. DISEASE RESISTANCE: (0 = Untested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="0"/> ANTHRACNOSE (Race _____)	<input type="text" value="0"/> DOWNY MILDEW	<input type="text" value="0"/> FUSARIUM WILT	<input type="text" value="0"/> GUMMY STEM BLIGHT
<input type="text" value="0"/> SQUASH MOSAIC	<input type="text" value="0"/> WATERMELON MOSAIC	<input type="text" value="0"/> POWDERY MILDEW	<input type="text" value="0"/> CUCUMBER MOSAIC
<input type="text" value="0"/> OTHER (Specify) _____			

15. OTHER RESISTANCE: (0 = Untested, 1 = Susceptible, 2 = Resistant)

<input type="text" value="2"/> SUNBURN	<input type="text" value="0"/> ROOT KNOT	<input type="text" value="0"/> OTHER (Specify) _____
--	--	--

16. NAME A VARIETY THAT MOST CLOSELY RESEMBLES THAT SUBMITTED:

Days maturity	CHARLESTON GRAY	Fruit shape	CHARLESTON GRAY
Plant vigor	SUGAR BUSH	Rind color	"
Fruit Size	PEACOCK	Flesh quality	"

REFERENCES:

1. Frey, K. J. 1966. Plant Breeding - Symposium. 1 ed. Iowa State University Press.
2. Ware, G. W. and McCollum, J. P. 1968. Producing Vegetable Crops. Interstate Printers & Publishers, Inc. Danville, Illinois.
3. Whittaker, T. W. and Davis, G. N. 1962. Cucurbits. Interscience Publishers, Inc. New York.
4. Nickerson's or any recognized color fan should be used to determine the plant colors of the described variety.

State of Idaho

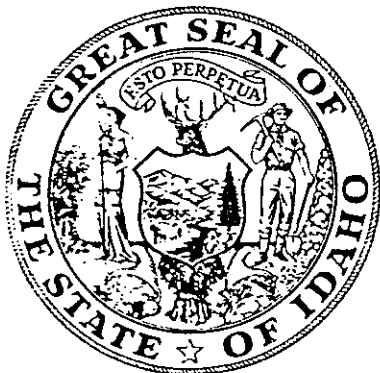
Department of State

CERTIFICATE OF MERGER OR CONSOLIDATION

I, PETE T. CENARRUSA, Secretary of State of the State of Idaho hereby certify that duplicate originals of Articles of Merger of MUSSER SEED CO., INC., an Idaho corporation, into ROGERS BROTHERS SEED COMPANY, a Delaware corporation, duly signed and verified pursuant to the provisions of the Idaho Business Corporation Act, have been received in this office and are found to conform to law.

ACCORDINGLY and by virtue, of the authority vested in me by law, I issue this certificate of merger, and attach hereto a duplicate original of the Articles of Merger.

Dated June 30, 19 89.



Pete T. Cenarrusa

SECRETARY OF STATE

[Signature]
Corporation Clerk

ARTICLES OF MERGER
OF
MUSSER SEED CO., INC.

INTO

ROGERS BROTHERS SEED COMPANY,
A DELAWARE FOREIGN PARENT CORPORATION

JUN 30 2 15 PM '89
SECRETARY OF STATE

Pursuant to the provisions of Sections 30-1-75 and 30-1-77 of the Idaho Business Corporation Act, the undersigned corporation adopts the following Articles of Merger for the purpose of merging Musser Seed Co., Inc., a wholly-owned subsidiary corporation into the undersigned as the surviving corporation:

FIRST: The undersigned foreign corporation is incorporated under the laws of Delaware and the laws of such jurisdiction permit such a merger.

SECOND: The following Plan of Merger was adopted by the undersigned corporation in the manner prescribed by the laws of the jurisdiction under which it is organized.

RESOLVED, that Rogers Brothers Seed Company merge into itself its wholly-owned subsidiary, Musser Seed Co., Inc., the corporate existence of Rogers Brothers Seed Company, with all its purposes, powers and objects, shall continue unaffected and unimpaired by the merger and, as the surviving corporation, Rogers Brothers Seed Company shall succeed to all rights, assets, liabilities and obligations of Musser Seed Co., Inc.; and further

RESOLVED, that each share of common stock (\$1.00 par value) of Musser Seed Co., Inc. owned by Rogers Brothers Seed Company, such shares being all of the issued and outstanding shares of Musser Seed Co., Inc., shall be cancelled on the effective date of the merger, whereupon the separate existence and corporate organization of Musser Seed Co., Inc. shall cease; and further

RESOLVED, that the effective date of the merger shall be June 30, 1989; and further

RESOLVED, that the foregoing resolutions shall constitute an Agreement of Merger for the purpose of Section 258 of the Delaware Corporation Law and the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, directed to make, execute and acknowledge a certificate of merger in accordance with such section, setting forth such Agreement of Merger, and to file the same in the office of the Secretary of the State of Delaware, and to file the same or a true copy thereof in such other offices as may be required by the Delaware Corporation Law; and further

RESOLVED, that the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, directed to make, execute and acknowledge the Agreement of Merger in accordance with Section 30-1-77 of the Corporation Law of the State of Idaho, and to file the same in the office of the Secretary of the State of Idaho, and to file the same or a true copy thereof in such other offices as may be required by the Corporation Laws of the State of Idaho, and to appoint the Secretary of State of the State of Idaho as the agent of Rogers Brothers Seed Company to accept service of process in action for enforcement of any prior obligations of Musser Seed Co., Inc., and to agree that Rogers Brothers Seed Company may be sued in the State of Idaho for any prior obligation of Musser Seed Co., Inc. incurred after the merger; and further

RESOLVED, that the appropriate officers of Rogers Brothers Seed Company be, and they hereby are, authorized to take any and all further action and execute and deliver any and all further documents that may be necessary or desirable in order to carry out and effectuate fully the purposes set forth in the foregoing resolutions.

THIRD: The number of outstanding shares of each class of the subsidiary corporation and the number of such shares of each class owned by the surviving corporation are as follows:

<u>Name of Subsidiary</u>	<u>Number of Shares Outstanding</u>	<u>Designation of Class</u>	<u>No. of Shares Owned By Surviving Corporation</u>
Musser Seed Co., Inc.	156,519 Common Shares	Common Stock	156,519 Common Shares

FOURTH: The requirement that a copy of the plan of Merger set forth in Article Second was waived by the Corporation as sole shareholder on June 19, 1989.

FIFTH: The undersigned corporation hereby (a) agrees that it may be served with process in the State of Idaho in any proceeding for the enforcement of any obligation of the above-mentioned subsidiary corporation; and (b) irrevocably appoints the Secretary of State of Idaho as its agent to accept service of process in any such proceeding.

Dated: June 29, 1989.

ROGERS BROTHERS SEED COMPANY

By William B. Albers
William B. Albers
Its President, and

By Alden E. Hill
Alden E. Hill
Its Vice President of
Administration and Secretary

STATE OF IDAHO)
) SS
COUNTY OF ADA)

I, Mrs. Sharon L. Plaster, a notary public, do hereby certify that on this 29th day of June, 1989, personally appeared before me Alden E. Hill, who being by me first duly sworn, declared that he is the Vice President of Administration and Secretary of Rogers Brothers Seed Company, that he signed the foregoing document as Secretary of the corporation, and that the statements therein contained are true.

Mrs. Sharon L. Plaster
Notary Public for Idaho

Residing At: Boise, Idaho

My Commission expires: 5-27-91

STATE OF IDAHO)
) SS
COUNTY OF ADA)

I, Mrs Sharon L. Plaster, a notary public, do hereby certify that on this 29th day of June, 1989, personally appeared before me William B. Albers, who being by me first duly sworn, declared that he is the President of Rogers Brothers Seed Company, that he signed the foregoing document as President of the corporation, and that the statements therein contained are true.

Mrs. Sharon L. Plaster
Notary Public for Idaho
Residing at: Boise, Idaho

My Commission Expires: 5-27-91

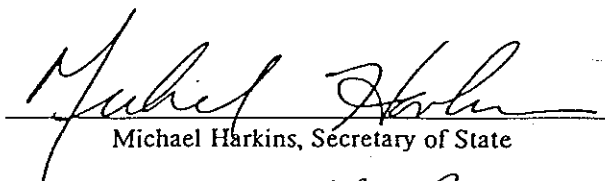

State of Delaware



Office of Secretary of State

I, MICHAEL HARKINS, SECRETARY OF STATE OF THE STATE OF DELAWARE
DO HEREBY CERTIFY THAT "ROGERS BROTHERS SEED COMPANY", FILED A
CERTIFICATE OF AMENDMENT, CHANGING ITS CORPORATE TITLE TO "ROGERS
NK SEED CO.", ON THE TWENTY-SIXTH DAY OF DECEMBER, A.D. 1990, AT 10:01
O'CLOCK A.M.




Michael Harkins, Secretary of State
AUTHENTICATION: 
DATE: 10/08/1991

AMENDED
STATEMENT AND DESIGNATION
BY
FOREIGN CORPORATION

DO NOT WRITE IN THIS SPACE

ROGERS NK SEED CO.

_____, a corporation
organized and existing under the laws of Delaware,
and which is presently qualified for the transaction of intrastate business in the
State of California, makes the following statements and/or designation:

That the name of the corporation has been changed to that hereinabove set forth
and that the name relinquished at the time of such change was _____

ROGERS BROTHERS SEED COMPANY

ROGERS NK SEED CO.
(Name of Corporation)

William B. Albers
(Signature of corporate officer)

William B. Albers, President
(Typed name and title of officer signing)

INSTRUCTIONS:

1. If this Amended Statement shows a change of corporate name, there must be attached to this Amended Statement a certificate of an authorized public official of the state or place of incorporation, that such change of name was made in accordance with the laws of that state or place.
2. For filing this Amended Statement there is a fee of \$15.00.

State of Delaware
Office of the Secretary of State

PAGE 1

I, WILLIAM T. QUILLEN, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "ROGERS NK SEED CO.", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "ROGERS SEED CO.", THE FIFTH DAY OF MAY, A.D. 1994, AT 9 O'CLOCK A.M.



William T. Quillen

William T. Quillen, Secretary of State

0810041 8320

944080001

AUTHENTICATION: 7120759

DATE: 05-16-94

**CERTIFICATE OF AMENDMENT
OF
CERTIFICATE OF INCORPORATION
OF
ROGERS NK SEED CO.**

Adopted in accordance with the provisions
of Section 242 of the General Corporation
Law of the State of Delaware

EFFECTIVE DATE: June 1, 1994

We, Willem van Overschot, President, and Richard B. Geller, Secretary, of Rogers NK Seed Co., a corporation existing under the laws of the State of Delaware, do hereby certify as follows:

FIRST: The Certificate of Incorporation of the corporation was filed on 2/27/75.

SECOND: The Certificate of Incorporation of said corporation has been amended as follows:

By striking out the whole of Article I thereof as it now exists and inserting in lieu and instead thereof, a new Article I, reading as follows:

ARTICLE I

Name

The name of the Corporation is ROGERS SEED CO.

THIRD: Such amendment has been duly adopted in accordance with the provisions of the General Corporation Law of the State of Delaware, by the unanimous written consent of all of the stockholders entitled to vote in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

FOURTH: See attached Written Consent of Sole Shareholder and Board of Directors' Resolution.

IN WITNESS WHEREOF, we have signed this certificate this 13th day of April, 1994.

Willem van Overschot
Willem van Overschot, President

Richard B. Geller
Richard B. Geller, Secretary

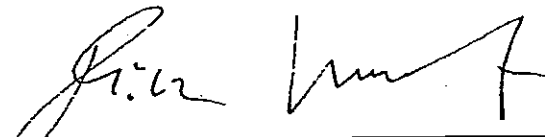
ROGERS NK SEED CO.

WRITTEN CONSENT OF SOLE SHAREHOLDER

SANDOZ CORPORATION, owner of all of the issued and outstanding shares of ROGERS NK SEED CO., hereby consents, pursuant to Section 228 of the Delaware General Corporation Law, to the adoption of the following resolution as and for the act of the shareholder:

RESOLVED, that SANDOZ CORPORATION, as sole shareholder, approves the amendment to Article I of the Certificate of Incorporation of ROGERS NK SEED CO., changing its name to **ROGERS SEED CO.**

Dated: April 22, 1994



Heinz P. Imhof,
Chief Executive Officer
Sandoz Corporation

00 00 30

01

ROGERS NK SEED CO.

RESOLUTION

RESOLVED, that according to Section 242 of the General Corporation Law of the State of Delaware, that Article I of the Certificate of Incorporation be amended, effective June 1, 1994, to read as follows: The name of the Corporation is **ROGERS SEED CO.**; and, further,

RESOLVED, that the appropriate officers of Rogers NK Seed Co. be, and they hereby are, authorized to take any and all further action and execute and deliver any and all further documents that may be necessary or desirable in order to carry out and effectuate fully the purposes set forth in the foregoing resolution.

ADOPTED UNANIMOUSLY BY THE BOARD
MARCH 31, 1994

Richard B. Geller
Richard B. Geller, Secretary

State of Delaware
Office of the Secretary of State PAGE 1

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"ROGERS SEED CO.", A DELAWARE CORPORATION,

WITH AND INTO "NOVARTIS SEEDS, INC." UNDER THE NAME OF "NOVARTIS SEEDS, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-FIFTH DAY OF JUNE, A.D. 1997, AT 9 O'CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



0829320 8100M
971211787

Edward J. Freel

Edward J. Freel, Secretary of State

AUTHENTICATION: 8531908
06-26-97

DATE:

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 09:00 AM 06/25/1997
971211787 - 0829320

CERTIFICATE OF MERGER
OF
ROGERS SEED CO.
INTO
NOVARTIS SEEDS, INC.

The undersigned corporation organized and existing under and by virtue of the General Corporation Law of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the name and state of incorporation of each on the constituent corporations of the merger is as follows:

NAME

STATE OF INCORPORATION

Novartis Seeds, Inc.
Rogers Seed Co.

Delaware
Delaware

SECOND: That an Agreement and Plan of Merger between the parties to the merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations in accordance with the requirements of section 251 of the General Corporation Law of Delaware

THIRD: That the name of the surviving corporation is Novartis Seeds, Inc.

FOURTH: That the Certificate of Incorporation of Novartis Seeds, Inc., a Delaware corporation which will survive the merger, shall be the Certificate of Incorporation of the surviving corporation.

FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation, the address of which is 7500 Olson Memorial Highway, Golden Valley, MN 55427.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation, on request and without cost, to any stockholder of any constituent corporation.

SEVENTH: That this Certificate of Merger shall be effective on July 1, 1997.

Dated June 23, 1997

NOVARTIS SEEDS, INC.

By: 

Name: Edward C. Resler

Title: Vice President & General Counsel